

**Ex. N**

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
OAKLAND DIVISION

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ELASTICSEARCH, INC., a )  
Delaware corporation, )  
ELASTICSEARCH B.V., a )  
Dutch corporation, )  
Case No.  
Plaintiffs, ) 4:19-cv-05553-YGR  
vs. )  
FLORAGUNN GMBH, a German )  
corporation, )  
Defendants. )

\*\* HIGHLY CONFIDENTIAL \*\*  
\*\* UNDER PROTECTIVE ORDER \*\*  
\*\* ATTORNEY'S EYES ONLY \*\*

REMOTE VIDEOTAPED DEPOSITION  
OF  
MARTIN WALKER, Ph.D.  
Tuesday, August 10, 2021  
Woodside, California

Reported by: B. Suzanne Hull, CSR No. 13495

APPEARANCES

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The Videographer: Phillip Love  
Also Present: Dr. Owen Astrachan

1 Woodside, California

2 Tuesday, August 10, 2021; 7:03 a.m.

3 1820 Portola Road, Woodside, California 94062

4

5 THE VIDEOGRAPHER: Good morning.

6 We are going on record at 7:03 a.m. on 07:03:26

7 August 10th, 2021. 07:03:30

8 Please note that microphones are sensitive 07:03:31

9 and may pick up whispering, private conversations, 07:03:31

10 and cellular interference. 07:03:35

11 Please turn off all cellphones or place them 07:03:37

12 away from the microphones as they can interfere with 07:03:41

13 deposition audio. 07:03:46

14 Audio and video recording will continue to 07:03:47

15 take place unless all parties agree to go off the 07:03:47

16 record. 07:03:49

17 This is media unit one of the video-recorded 07:03:49

18 deposition of Martin Walker, Ph.D., taken by counsel 07:03:52

19 for defendants in the matter of Elasticsearch, Inc., 07:03:56

20 et al., versus floragunn GmbH, filed in the 07:04:03

21 United States District Court, Northern District of 07:04:05

22 California, Oakland Division. Case Number is 07:04:11

23 4:19-cv-05553-YGR. 07:04:14

24 Today's deposition is being held as 07:04:20

25 a virtual Zoom call. 07:04:22

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1	My name is Phillip Love, from the firm	07:04:23
2	Veritext, and I'm the legal videographer. The court	07:04:27
3	reporter is Suzanne Hull, from the firm Veritext.	07:04:30
4	Will counsel please voice identify	07:04:32
5	yourselves for the record.	07:04:34
6	MR. KWUN: Michael Kwun, for the defendant.	07:04:43
7	MR. EBERHART: David Eberhart, on behalf of	07:04:44
8	plaintiffs.	07:04:46
9	And with me is my colleague, Daniel Leigh.	07:04:46
10	THE VIDEOGRAPHER: Thank you.	07:04:59
11	Will the court reporter please swear in the	07:04:59
12	witness.	07:05:03
13	THE WITNESS: Just one second. I forgot to	07:05:04
14	close the door to my office. I'll be right back.	07:05:04
15	Now I'm ready.	07:05:06
16	THE REPORTER: Raise your right hand,	07:05:08
17	please.	07:05:09
18		
19	MARTIN WALKER, Ph.D.,	
20	called as an expert witness by counsel for	
21	Defendants, being first duly sworn, testified as	
22	follows:	
23		07:05:14
24	THE WITNESS: Yes.	07:05:16
25	THE REPORTER: Thank you.	07:05:17

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1 A. (Witness complies.) 07:24:00

2 Q. Do you see that? 07:24:01

3 A. I do. 07:24:07

4 Q. What computer language was the code in that 07:24:10

5 case written in? 07:24:17

6 A. The -- the UI was in JavaScript. The -- and 07:24:19

7 I don't remember the back-end code. 07:24:29

8 Q. Okay. And on page twenty-five of your CV 07:24:36

9 you list OnePoint v MPAY. 07:24:46

10 What computer language was the code in that 07:24:51

11 case written in? 07:24:54

12 A. The front end is -- was also HTML and 07:24:56

13 JavaScript and -- let's see. The back end I'm pretty 07:25:08

14 sure Visual Basic or some Microsoft version. 07:25:22

15 Q. Okay. And then the last copyright case that 07:25:25

16 I found on your CV is HEALTHeSTATE v United States 07:25:30

17 and ASM Research. 07:25:34

18 What computer languages are involved in that 07:25:36

19 case? 07:25:41

20 A. The front end is JavaScript and extensions, 07:25:42

21 and the back end is -- oh, the Microsoft back end, 07:25:52

22 Visual Basic, ASP. 07:25:56

23 Q. All right. What cases that you have worked 07:26:10

24 on, if any, have involved claims of decompilation? 07:26:18

25 A. I used decompilation in the -- in a matter 07:26:25

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1       that I can't find in my deposition -- in my CV right       07:27:21  
2       now. Oh, here it is, page twenty-two,       07:27:27  
3       GeoSolutions v GyPSii.       07:27:34  
4           Q. Okay. And what do you mean that you used       07:27:38  
5       decompilation in that case?       07:27:40  
6           A. There was -- the ultimate defendant's       07:27:42  
7       software was a JAVA application, and I used       07:27:49  
8       decompilation to understand the operation of the       07:27:53  
9       defendant's application.       07:27:57  
10          Q. What decompiler did you use?       07:27:58  
11          A. I don't -- I don't recall specifically.       07:28:05  
12          Q. Was it associated with an ID?       07:28:08  
13           MR. EBERHART: Objection.       07:28:16  
14           THE WITNESS: It -- it could have been.       07:28:20  
15       These were -- these were JAVA -- you know, Android       07:28:22  
16       applications, which are packaged up in these APC       07:28:30  
17       files, and I used a standard tool chain -- standardly       07:28:35  
18       available tool chain for JAVA -- I mean for Android       07:28:40  
19       applications. I can't remember the specifics at this       07:28:46  
20       time.       07:28:48  
21       BY MR. KWUN:       07:28:49  
22          Q. The code in that case that you were       07:28:49  
23       decompiling was not in JAVA byte code then; is that       07:28:51  
24       correct?       07:28:56  
25          A. No. It was JAVA byte code.       07:28:56

1 Q. The -- the Android -- 07:28:59

2 A. This is an Android application. Android 07:29:04

3 applications are compiled into JAVA byte code and 07:29:08

4 distributed in these packages. 07:29:10

5 Q. They are not in their -- in a -- in 07:29:12

6 a separate byte code that Android uses? 07:29:15

7 A. They are in -- they are in -- they are JAVA 07:29:20

8 applications that are compiled into a byte code 07:29:27

9 stream and -- and then, you know, whether that -- and 07:29:31

10 so that looks -- sounds to me like a JAVA byte code. 07:29:36

11 It may -- it may -- there may be some optimization 07:29:40

12 that goes on for the Android platform, but 07:29:40

13 fundamentally it is JAVA byte code that I was looking 07:29:46

14 at. 07:29:49

15 Q. Okay. Do you know whether the Android VM 07:29:49

16 uses a different byte code than standard JAVA? 07:29:53

17 MR. EBERHART: Objection. Vague. 07:29:57

18 THE WITNESS: I don't know one way or 07:29:58

19 another. 07:30:00

20 BY MR. KWUN: 07:30:00

21 Q. The decompiler that you used in that case, 07:30:04

22 was it a decompiler specific for Android 07:30:07

23 applications? 07:30:10

24 A. It was part of the Android tool chain. 07:30:11

25 Q. Was anyone in that case accused of 07:30:16



1	decompiling code?	07:30:24
2	A. No.	07:30:26
3	Q. Have you worked on any other cases that	07:30:26
4	involved decompilation?	07:30:31
5	A. I don't think so.	07:30:34
6	Q. Before this case, have you ever offered an	07:30:39
7	opinion about whether or not code had been	07:30:49
8	decompiled?	07:30:52
9	A. Well, in the -- the GeoSolutions matter,	07:30:54
10	I explained that I had decompiled the code and used	07:31:03
11	the decompiled code to understand the operation of	07:31:08
12	the defendant's application --	07:31:11
13	Q. And --	07:31:15
14	A. -- versus the -- traced out the series of	07:31:16
15	APIs that were being used.	07:31:19
16	Q. In any of your work, have you ever offered	07:31:22
17	an opinion that someone else decompiled code?	07:31:24
18	A. Someone else other than myself? No.	07:31:28
19	I haven't.	07:31:34
20	Q. And I should have asked that totally	07:31:35
21	differently; so let me try again.	07:31:37
22	In any of your work, have you ever offered	07:31:39
23	an opinion whether someone else decompiled code?	07:31:43
24	A. I explained, as -- as I have stated,	07:31:47
25	I explained that I decompiled code in the	07:31:57

1 use JavaScript to build UIs. 07:37:53

2 BY MR. KWUN: 07:37:55

3 Q. Okay. Would you hold yourself out as 07:37:56

4 a JavaScript programmer? 07:37:58

5 A. No. 07:37:59

6 I would hold myself out as someone who 07:38:00

7 understands the scope and operation of JavaScript 07:38:04

8 programs. 07:38:07

9 Q. What experience do you have with 07:38:07

10 decompilation? 07:38:15

11 MR. EBERHART: Objection. Asked and 07:38:17

12 answered. 07:38:18

13 THE WITNESS: I have used -- in addition to 07:38:21

14 this matter, I have used decompilation to understand 07:38:26

15 the operation of -- of JAVA applications in -- in 07:38:34

16 a -- a number of different job app- -- Android 07:38:38

17 applications and JAVA applications. 07:38:42

18 BY MR. KWUN: 07:38:44

19 Q. You sometimes use the term reverse 07:38:49

20 compilation in your report; correct? 07:38:52

21 A. Yes. 07:38:54

22 Q. Does that have a different meaning from 07:38:55

23 decompilation in your mind? 07:39:00

24 A. Not in the context of this report. 07:39:02

25 Q. In connection with your work in this case, 07:39:05

1 review; so I didn't make that decision myself. 10:27:34

2 BY MR. KWUN: 10:27:36

3 Q. If you could turn to Paragraph 102 of your 10:27:37

4 expert report. 10:27:42

5 A. Yes. 10:27:43

6 Q. This is a conclusion that you were drawing 10:27:44

7 about a comparison of floragunn code to Elastic code; 10:27:49

8 correct? 10:27:56

9 A. Yes. 10:27:57

10 Q. And the code that you are comparing is the 10:27:58

11 code on page thirty-three and on the left side of 10:28:01

12 page thirty-four; is that correct? 10:28:06

13 A. Yes. 10:28:08

14 Q. So your opinion is that -- is that an 10:28:09

15 ordinary, reasonable computer programmer would find 10:28:14

16 the source code on the left side of page thirty-four 10:28:18

17 to be substantially similar in total concept and feel 10:28:25

18 to the code on page thirty-three; correct? 10:28:29

19 A. Yes. 10:28:34

20 Q. And in reaching that conclusion, you did not 10:28:35

21 consider any of the other code in either file; is 10:28:38

22 that correct? 10:28:43

23 MR. EBERHART: Objection. Vague. 10:28:45

24 THE WITNESS: This -- yes. It is correct 10:28:47

25 that Paragraph 102 specifically refers to the source 10:28:49

1 code on paragraph -- on page thirty-four. 10:28:53

2 BY MR. KWUN: 10:28:56

3 Q. If you could turn to page thirty-nine of 10:29:02

4 your report. 10:29:04

5 A. (Witness complies.) 10:29:05

6 Q. On page thirty-nine of your report, you 10:29:11

7 note -- this is -- strike that. 10:29:14

8 Page thirty-nine of your report is part of 10:29:17

9 your discussion of the binary field code; is that 10:29:21

10 correct? 10:29:25

11 A. Yes. 10:29:26

12 Q. And on page thirty-nine of your report you 10:29:28

13 note that Elastic's binary field code was first 10:29:34

14 published on September 17th, 2015; is that correct? 10:29:38

15 A. On -- excuse me. 10:29:46

16 On page? 10:29:47

17 Q. Thirty-nine of your report -- 10:29:49

18 A. Report. 10:29:51

19 Q. -- under the heading exemplary copyrighted 10:29:52

20 source code. 10:29:57

21 A. Yes. 10:29:58

22 Q. And under the -- the item date of first 10:29:58

23 publication it says September 17th, 2015; correct? 10:30:01

24 A. Yes. 10:30:06

25 Q. And that is many months after the 10:30:08

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1 conversation that Uri Bones claims that he had with 10:30:12  
2 Hendrik Saly. 10:30:22  
3 Isn't that true? 10:30:22  
4 A. I mean, I don't have Mr. Bones' deposition 10:30:24  
5 testimony memorized, nor -- you know, I don't 10:30:32  
6 remember -- I don't remember the date. 10:30:35  
7 Q. I would like you to assume that 10:30:37  
8 September 15th, 20-- September 17th, 2015, post 10:30:53  
9 dates the conversation that Uri Bones claims to have 10:30:58  
10 had with Hendrik Saly. 10:31:02  
11 Okay? 10:31:04  
12 So just go ahead and assume that for now. 10:31:05  
13 I will represent to you that that is, indeed, what 10:31:08  
14 the Bones deposition testimony shows and the 10:31:10  
15 interrogatory responses from Elastic show. 10:31:13  
16 A. Okay. 10:31:17  
17 Q. Uri Bones claims that Hendrik Saly said that 10:31:18  
18 Hendrik Saly decompiled Shield. 10:31:25  
19 Isn't that true? 10:31:28  
20 A. That is generally consistent with my memory 10:31:29  
21 of his testimony. 10:31:33  
22 Q. If Hendrik Saly made that statement before 10:31:34  
23 September 17th, 2015, he would not have been 10:31:39  
24 referring to decompiling code that would have 10:31:44  
25 included the binary field code on page thirty-nine of 10:31:47

1 your report. 10:31:52

2 Isn't that true? 10:31:52

3 MR. EBERHART: Objection. Vague. 10:31:53

4 THE WITNESS: My -- it seems to me that 10:31:56

5 he -- he was talking about -- and we should -- 10:32:00

6 before -- before you were asking me to characterize 10:32:06

7 Mr. Bones' testimony, I think I would be more 10:32:10

8 comfortable if we had Mr. Bones' testimony in front 10:32:15

9 of me so I am not relying on my memory of his 10:32:19

10 testimony. 10:32:22

11 BY MR. KWUN: 10:32:22

12 Q. Okay. Let's -- let's -- let's put aside the 10:32:22

13 testimony, and let me just ask a pure hypothetical 10:32:26

14 here. 10:32:28

15 If somebody decompiled an Elastic binary 10:32:29

16 prior to September 17th, 2015, that they had obtained 10:32:33

17 through publicly available binaries, it wouldn't have 10:32:38

18 included the accused binary field code, would it? 10:32:42

19 MR. EBERHART: Objection. Incomplete 10:32:46

20 hypothetical. Vague. 10:32:47

21 THE WITNESS: The specific code -- the 10:32:48

22 specific code that he had already decompiled in 2015 10:32:58

23 would not have included the binary field code that 10:33:03

24 was -- that -- that was first -- I -- now, let's see. 10:33:11

25 I thought you said -- so I'm now confused. The dates 10:33:33

1 on -- on the publication of the binary field code 10:33:39

2 are -- are 2015. And -- and the dates of Mr. Saly's 10:33:44

3 discussion with Mr. Bones are also in 2015. 10:33:59

4 So are we talking about different months in 10:34:04

5 2015? Is that -- is that your point right now? 10:34:06

6 BY MR. KWUN: 10:34:08

7 Q. Yes. 10:34:08

8 That is my point right now. But, again, 10:34:09

9 I -- 10:34:11

10 A. I don't remember. I don't remember. 10:34:11

11 Q. I'm not asking you to remember anything 10:34:12

12 about that. 10:34:14

13 I'm saying that if somebody decompiled 10:34:15

14 a publicly available Elastic binary prior to 10:34:19

15 September 17th, 2015, the date of first publication 10:34:23

16 of the code that you refer to on page thirty-nine, 10:34:29

17 their code that they decompiled wouldn't include the 10:34:34

18 code that wasn't published until September 17, 2015. 10:34:38

19 I'm just trying to establish the logical order of the 10:34:43

20 flow of time. 10:34:45

21 A. Okay. So the -- that -- 10:34:47

22 MR. EBERHART: Objection. 10:34:48

23 THE WITNESS: -- that -- 10:34:48

24 MR. EBERHART: Argumentative. 10:34:49

25 THE WITNESS: -- that specific -- that 10:34:50

1 specific instance of decompilation, if it occurred 10:34:54  
2 prior to the first publication date, would not -- 10:34:57  
3 would not have included the source code on page 10:35:03  
4 thirty-nine; however, it says nothing about 10:35:09  
5 subsequent -- that is not true. 10:35:11

6 It says given that Mr. Saly made a -- 10:35:15  
7 a process -- made it a -- made it a -- admits to 10:35:25  
8 using the decompiled code as an aid in -- in 10:35:29  
9 development does say something about whether he would 10:35:35  
10 have used it again in the future. 10:35:39

11 BY MR. KWUN: 10:35:41

12 Q. So you are relying -- well, let me strike 10:35:41  
13 that. 10:35:45

14 Is it your opinion that because Hendrik Saly 10:35:45  
15 allegedly admitted to decompiling code once that it 10:35:51  
16 follows that he decompiled code later? 10:35:57

17 A. That is not my -- it is -- follows that it 10:36:01  
18 was -- that he was familiar with the process of 10:36:04  
19 decompiling. He was familiar with the benefits of 10:36:08  
20 decompiling. Together with the evidence that he did 10:36:11  
21 decompile the code -- the later code that it makes it 10:36:14  
22 likely that he did continue to decompile code. 10:36:21

23 Excuse me one second. 10:36:24

24 Q. We'll -- we'll take a break soon so you 10:36:31  
25 can -- you can catch your breath back. But let me 10:36:33



1 get -- 10:36:36

2 A. Yes. Thank you. 10:36:36

3 I was going to ask if we could take a break 10:36:37

4 soon at a convenient place. 10:36:40

5 Q. Yes. We are going to have a convenient 10:36:41

6 place really soon. It's just a few more questions on 10:36:43

7 this very point. 10:36:46

8 Do you have -- do you have any technical 10:36:47

9 basis for your opinion that given that he allegedly 10:36:55

10 decompiled once that -- that that makes it more 10:37:02

11 likely that he would have decompiled in the future? 10:37:07

12 MR. EBERHART: Objection. Vague. 10:37:10

13 THE WITNESS: Yes. 10:37:11

14 My technical basis is all of the 10:37:12

15 decompiled -- all of the evidence of decompilation 10:37:15

16 and identical source code that I cite in my opening 10:37:18

17 report. And that is my technical evidence for that. 10:37:22

18 BY MR. KWUN: 10:37:27

19 Q. So your -- so decompilation you realize is 10:37:29

20 something that you are relying on as a theory to 10:37:34

21 support access; correct? 10:37:37

22 A. Yes. 10:37:38

23 Q. And you are relying on the substantial 10:37:39

24 similarity in the code to prove access; is that 10:37:42

25 correct? 10:37:48

1 MR. EBERHART: Objection. Mischaracterizes 10:37:49  
2 prior testimony. Object to the extent it calls for 10:37:50  
3 a legal conclusion. 10:37:53  
4 THE WITNESS: That is not my testimony. 10:37:54  
5 BY MR. KWUN: 10:37:55  
6 Q. Okay. Are you relying on anything other 10:37:55  
7 than the alleged substantial similarity and 10:37:58  
8 Uri Bones' testimony in order to conclude that 10:38:01  
9 Hendrik Saly decompiled code? 10:38:05  
10 A. Yes. 10:38:08  
11 Q. What is that? 10:38:08  
12 A. I am -- I am relying -- in addition to those 10:38:10  
13 two factions you just mentioned, I'm relying on 10:38:15  
14 the -- on the specific indicia of decompilation that 10:38:19  
15 I identified in the -- in the code. I'm also relying 10:38:24  
16 on the -- on the facts that decompilation -- reverse 10:38:29  
17 compiling of decompilation is a well-known and 10:38:33  
18 straightforward process; that -- that I have done it 10:38:39  
19 before and it is -- and Dr. Astrachan has also 10:38:42  
20 indicated in his report that it -- that it is 10:38:47  
21 a straightforward and accessible means of obtaining 10:38:52  
22 access to the code. 10:38:56  
23 Q. Ah, just, like, two more questions and then 10:38:57  
24 we'll break. 10:39:00  
25 A. I have heard that before. 10:39:01

1 Q. I'm sure you have. I'm sure you have, 10:39:03  
2 Dr. Walker. 10:39:05  
3 The indicia of decompilation that you were 10:39:07  
4 talking about, I believe those are in the section of 10:39:10  
5 your report on bulk op type; is that correct? 10:39:13  
6 A. At the very least. There is other -- there 10:39:17  
7 is other examples that I'm sure we'll -- we will turn 10:39:19  
8 to as we review my report. 10:39:23  
9 MR. KWUN: Okay. Why don't we go ahead and 10:39:28  
10 take a break. 10:39:31  
11 THE WITNESS: Thank you. 10:39:32  
12 THE VIDEOGRAPHER: We're off the record. 10:39:32  
13 10:39 a.m. 10:39:33  
14 (Short recess taken.) 10:49:26  
15 THE VIDEOGRAPHER: We are now on the record. 10:49:26  
16 10:49 a.m. 10:49:28  
17 BY MR. KWUN: 10:49:30  
18 Q. Dr. Walker, can you turn to the 10:49:37  
19 exceptionCaught() portion of your report? It starts 10:49:43  
20 at Paragraph 118. 10:49:47  
21 A. Yes. 10:49:50  
22 Q. Tell me when you are there. 10:49:55  
23 A. I'm starting to get there. It is -- I'm 10:49:56  
24 trying to keep three different reports in sync here. 10:49:59  
25 Okay. 10:50:42

1	Yes.	13:03:09
2	Q. Okay. And I'm actually going to ask you to	13:03:09
3	go a little further down and to look at the exemplary	13:03:13
4	copyrighted source code and then the accused	13:03:25
5	floragunn source code, which are on pages	13:03:29
6	seventy-four through seventy-six.	13:03:36
7	A. (Witness complies.)	13:03:40
8	Q. And I would like you to start with the	13:03:46
9	floragunn code; so on page seventy-five, and I would	13:03:48
10	like you to take a look at Line 369.	13:03:54
11	A. (Witness complies.)	13:04:01
12	Yes.	13:04:02
13	Q. So Line 369 is an if statement; correct?	13:04:03
14	A. Yes.	13:04:10
15	Q. And the if statement -- the test that is	13:04:11
16	being performed on that if statement uses a logical	13:04:18
17	and represented by the double ampersand; correct?	13:04:24
18	A. Yes.	13:04:28
19	Q. And both of the elements that are being	13:04:28
20	logically ended in that --	13:04:32
21	A. Uh-huh.	13:04:34
22	Q. -- test are items that are negated, which is	13:04:35
23	represented by the beginning exclamation point; is	13:04:40
24	that correct?	13:04:45
25	A. Yes. That is correct.	13:04:46

1 Q. So the -- leaving aside what these precise 13:04:47  
2 things that are being negated are -- 13:04:51  
3 A. Uh-huh. 13:04:53  
4 Q. -- the test is of the form if not A and not 13:04:54  
5 B -- 13:04:59  
6 A. Yes. 13:05:01  
7 Q. -- is that correct? 13:05:02  
8 A. Yes. 13:05:04  
9 Q. Let's take a look at the Elastic code. 13:05:04  
10 A. Uh-huh. 13:05:12  
11 Q. In the Elastic code, the line that you 13:05:13  
12 contend is equivalent is line -- 13:05:15  
13 A. Yes. 13:05:21  
14 Q. -- fifty-five; correct? 13:05:21  
15 I'm sorry. 13:05:25  
16 What was your answer? 13:05:26  
17 A. I had no answer yet. 13:05:28  
18 Q. Oh, I'm sorry. 13:05:30  
19 A. So what is the question then? I think the 13:05:38  
20 question was -- 13:05:40  
21 Q. What -- what -- 13:05:41  
22 A. Yeah. 13:05:43  
23 Q. So the if test that we were looking at in 13:05:43  
24 floragunn's code, is that derived from one or more 13:05:46  
25 lines of the Elastic code in your opinion? 13:05:51

1 A. Yes. 13:05:57

2 Q. And are those lines at fifty-five and part 13:06:04

3 of line fifty-six? 13:06:08

4 A. Well, the boolean part of this is -- is line 13:06:10

5 fifty-five. 13:06:48

6 Q. So the -- the boolean part of line 13:06:50

7 fifty-five does not have an if statement; correct? 13:06:54

8 A. No. 13:06:58

9 But the -- that's correct. It doesn't have 13:06:59

10 an if statement. 13:07:06

11 Q. Instead, we assign a boolean value, which is 13:07:07

12 to say a yes/no or a true/false value -- 13:07:11

13 A. Yes. 13:07:17

14 Q. -- for this boolean called if indices 13:07:17

15 request; correct? 13:07:19

16 A. Yes. 13:07:19

17 Q. And the if indices request, we form that by 13:07:20

18 doing a logical or represented by the two pipelines; 13:07:25

19 is that correct? 13:07:31

20 A. Yes. 13:07:31

21 Q. And the two elements that are logically or'd 13:07:32

22 are not negated; correct? 13:07:39

23 A. That is correct. 13:07:42

24 Q. There is no exclamation point in either of 13:07:43

25 those elements? 13:07:47

1 A. No. 13:07:48

2 The operation is obviously, as you have been 13:07:49

3 pointing out, a logical or; whereas, the combination 13:07:51

4 is a logical and in the equivalent floragunn. 13:07:56

5 Q. So in the -- in the Elastic code, instead of 13:08:02

6 having a test that is written in the form not A and 13:08:08

7 not B, we have an assignment in the form A or B? 13:08:13

8 A. Right. 13:08:20

9 And as you pointed out that that has been 13:08:21

10 tested as in the line fifty-nine, which contains the 13:08:24

11 not statement. 13:08:30

12 Q. Is there a mathematical relationship between 13:08:31

13 the logical form A or B and the logical form not A 13:08:39

14 and not B? 13:08:46

15 MR. EBERHART: Objection. Vague. 13:08:48

16 THE WITNESS: I think you are trying to 13:08:50

17 state De Morgan's theorem. 13:08:53

18 BY MR. KWUN: 13:08:56

19 Q. Well, what is De Morgan's theorem? 13:08:57

20 A. Not A -- give me a second. Not A and not B 13:09:00

21 is not A or B. 13:09:08

22 Q. So if I understand that correctly, the 13:09:11

23 combination in the Elastic code of the boolean 13:09:19

24 assignment in line fifty-five with a logical or and 13:09:26

25 the if statement in line fifty-nine that uses that 13:09:30

1	boolean but negates it --	13:09:35
2	A. Yes.	13:09:37
3	Q. -- has the same logical results as the	13:09:38
4	single if statement with the notes and the logical	13:09:41
5	ands in the floragunn code; is that correct?	13:09:46
6	A. Yes. That's correct.	13:09:49
7	And the transformation from Line 368 of	13:09:50
8	the -- I'm sorry. I'm going backwards. Sorry.	13:09:59
9	Line -- the transformation from lines	13:10:03
10	fifty-five and fifty-nine of the floragunn code is to	13:10:07
11	Line 368 of the -- I'm sorry. Let me try that again.	13:10:14
12	Going from line fifty-five and line	13:10:22
13	fifty-nine of the Elastic code is -- goes through	13:10:26
14	a simple transformation to become Line 369 of the	13:10:31
15	Elastic code -- of the floragunn code. Geez.	13:10:37
16	Q. So Dr. Walker, is it your theory that	13:10:43
17	floragunn looked at the Elastic code and then decided	13:10:49
18	to combine two lines that were several lines apart	13:10:53
19	and reverse the logic using a logical truism and --	13:10:57
20	to get rid of the boolean assignment, and that was	13:11:04
21	their -- how they decided to copy the code they	13:11:09
22	didn't understand?	13:11:11
23	MR. EBERHART: Objection. Mischaracterizes	13:11:13
24	the testimony, mischaracterizes the report,	13:11:15
25	incomplete hypothetical, and argumentative.	13:11:18



1 THE WITNESS: So it is -- it is my testimony 13:11:21  
2 that -- that the lines -- Line 369 of the floragunn 13:11:35  
3 code was created by -- is a -- is a transformation 13:11:50  
4 and at -- a transformation of the Elastic code at 13:11:59  
5 lines fifty-five and fifty-nine. 13:12:05  
6 BY MR. KWUN: 13:12:11  
7 Q. Do you have any theories on how that 13:12:17  
8 transformation would have occurred? 13:12:19  
9 MR. EBERHART: Objection. Vague. 13:12:21  
10 THE WITNESS: Well, I believe that Mr. Saly 13:12:25  
11 reviewed the decompiled Elastic source code, and in 13:13:10  
12 the process of -- of integrating it into the 13:13:18  
13 floragunn code that we see on page seventy-five made 13:13:29  
14 this a simple transformation. 13:13:35  
15 BY MR. KWUN: 13:13:38  
16 Q. Do you have a theory about why he would have 13:13:39  
17 made that so-called simple transformation? 13:13:42  
18 A. I don't have a -- no. I don't have 13:13:46  
19 a specific -- a theory about why he made it because 13:14:02  
20 you needed to -- rather than just recopying the -- 13:14:05  
21 the -- the byte -- the -- the reverse engineering or 13:14:10  
22 reverse component byte code, he just translated it 13:14:17  
23 back to JAVA code -- more -- more legible JAVA code. 13:14:20  
24 Q. All right. So is it your theory that 13:14:27  
25 instead of using a decompiler he had examined the 13:14:29

1	byte code?	13:14:33
2	A. No.	13:14:34
3	I said after he decompiled it, he -- you --	13:14:34
4	you have the byte code that doesn't necessarily --	13:14:38
5	isn't necessarily the -- the most efficient or the	13:14:42
6	easiest to use code, and he was -- used the results	13:14:48
7	of the decompiling to inform how he wrote this --	13:14:53
8	this resolve module.	13:14:58
9	Q. Decompiling JAVA code doesn't result in byte	13:15:01
10	code, does it?	13:15:10
11	A. I didn't -- don't believe I testified it	13:15:11
12	did.	13:15:13
13	Q. I believe what you said is no. I said after	13:15:13
14	he decompiled it, you -- you have the byte code that	13:15:17
15	doesn't necessarily -- isn't necessarily the most	13:15:19
16	efficient or the easiest to use code.	13:15:22
17	A. I'm sorry.	13:15:24
18	I meant to say --	13:15:25
19	Q. I misunderstood.	13:15:26
20	A. I might have -- I think it would be	13:15:27
21	better -- what I meant to say literally decompiled	13:15:29
22	byte code isn't the most efficient or easiest to	13:15:34
23	understand; so you -- so in order -- in my	13:15:38
24	experience, if you want to use decompiled code, you	13:15:40
25	end up rewriting -- it is often the case where you	13:15:44

1       rewrite the code to be more understandable or easier       13:15:48  
2       to read.       13:15:53

3           Q.   So your theory is that there were some       13:15:54  
4       artifacts, perhaps, from the decompilation that had       13:15:57  
5       to be fixed or that he decided to fix, and that is       13:16:00  
6       what resulted in the floragunn code? Do I understand       13:16:04  
7       that correctly?       13:16:08

8           A.   Yes. That's correct.       13:16:09

9           Q.   But you didn't do any tests or experiments       13:16:10  
10       to try to see what sort of artifacts might result       13:16:14  
11       from decompiling the Elastic code, did you?       13:16:18

12           MR. EBERHART: Objection. Mischaracterizes       13:16:25  
13       the prior testimony.       13:16:26

14           THE WITNESS: I didn't -- I didn't in       13:16:28  
15       this -- in this particular case.       13:16:34

16       BY MR. KWUN:       13:16:36

17           Q.   So you actually have no idea whether or not       13:16:37  
18       decompiling the Elastic code would have resulted in       13:16:39  
19       artifacts that would have led to the sorts of       13:16:47  
20       transformations that you are hypothesizing that       13:16:50  
21       Mr. Saly engaged in?       13:16:53

22           A.   No.       13:16:56

23           That is not my testimony.       13:16:57

24           Q.   Well, what is your basis for this somewhat       13:16:58  
25       complicated theory of how this code arose?       13:17:03

1 MR. EBERHART: Objection. Argumentative. 13:17:06

2 Misstates prior testimony. 13:17:09

3 THE WITNESS: I identified all of these 13:17:11

4 similarities between the Elastic code and the 13:17:15

5 florigunn code, and it -- and Paragraph 194 and 13:17:19

6 the -- the -- far from your suggestion that it is 13:17:24

7 an -- that it is a -- what did you say? 13:17:30

8 Far-fetched or -- far-fetched theory that -- 13:17:34

9 that the -- that the code that is on page 13:17:41

10 seventy-five results from decompilation; indeed, 13:17:46

11 I think that given the similarities in the code, 13:17:51

12 that's -- that it is most the likely explanation for 13:17:54

13 why -- for why the -- the similarities that 13:17:58

14 I identified on lines -- on Paragraph 194 exist. 13:18:02

15 BY MR. KWUN: 13:18:07

16 Q. With respect to the bulk op type code, you 13:18:09

17 identified a string literal that was in the code that 13:18:13

18 you felt was an indicia of possible decompilation; is 13:18:17

19 that correct? 13:18:23

20 A. I think that's right. 13:18:25

21 Can we just refer back to -- where is bulk 13:18:30

22 op type? 13:18:33

23 Q. Well, I wanted to get that -- I just wanted 13:18:35

24 to get that idea in your head. I won't hold you to 13:18:39

25 it until we get to the bulk op type section. 13:18:42

1           My question is in this code -- in this           13:18:46

2       resolve code --           13:18:49

3           A. Uh-huh.           13:18:50

4           Q. -- do you see any sort of similar things           13:18:51

5       that you find to be similar indicia of decompilation           13:18:53

6       in the floragunn code?           13:18:58

7           MR. EBERHART: Objection. Vague.           13:19:04

8           THE WITNESS: I'm sorry.           13:19:15

9           I started looking for the bulk op type and           13:19:17

10      then lost the --           13:19:20

11      BY MR. KWUN:           13:19:21

12           Q. Let me -- let me -- let me just give you           13:19:22

13      a page number.           13:19:25

14           A. I'm back on --           13:19:26

15           Q. If you could look at page seventy-four, and           13:19:27

16      then let me just re-ask the question in a slightly           13:19:29

17      different way.           13:19:32

18           A. Uh-huh.           13:19:33

19           Q. In your expert report you don't identify any           13:19:34

20      indicia of decompilation that you found in the source           13:19:37

21      code of the -- or excuse me. Not 674. On page --           13:19:45

22      now I'm doing it. Strike all of that.           13:19:52

23           On pages seventy-five to seventy-six, in           13:19:54

24      that code -- strike that.           13:19:58

25           In your expert report, you do not identify           13:19:59

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1 any indicia of decompilation that are in the source 13:20:03  
2 code on pages seventy-five and seventy-six, do you? 13:20:08  
3 A. Well, other than all of these -- I -- 13:20:14  
4 I identify all of the similarities in Paragraph 194 13:21:02  
5 between the two code sets. And -- and we recall that 13:21:07  
6 Mr. Saly explained to Mr. Bones that he engaged in 13:21:15  
7 reverse compilation of the Elastic code. Then 13:21:22  
8 I would say that the -- the -- I -- the similarities 13:21:28  
9 that I identified in Paragraph 194 are -- are, in 13:21:33  
10 fact, indicia of -- of reverse compilation. 13:21:37  
11 Q. The similarities that you identified are not 13:21:42  
12 indicia of decompilation versus some other form of 13:21:46  
13 copying, are they? 13:21:50  
14 A. So they would be -- these are -- these 13:21:56  
15 indicia in line -- in Paragraph 194 could be evidence 13:22:03  
16 of some other type of copying as well. 13:22:07  
17 Q. So there is nothing that specifically points 13:22:11  
18 to decompilation as the method of purported copying 13:22:13  
19 in the source code itself on pages seventy-four 13:22:17  
20 and -- or excuse me. Seventy-five and seventy -six, 13:22:21  
21 is there? 13:22:26  
22 A. There is nothing that points to -- unique -- 13:22:27  
23 uniquely points to -- what I cite in Paragraph 194 13:22:29  
24 identifies a number of similarities between the -- 13:22:33  
25 between the code that lead me to believe that the -- 13:22:37

1       that the code -- that the -- that the floragunn code       13:22:44  
2       was influenced by or derived from the Elastic code.       13:22:55  
3       And the straightforward explanation for those       13:23:05  
4       similarities involves reverse compilation.       13:23:11  
5           Q. All right. Let's look at page ninety-four       13:23:16  
6       and ninety-five of your expert report.       13:23:25  
7           A. (Witness complies.)       13:23:28  
8           Q. Is it your opinion that the floragunn code       13:23:55  
9       on page ninety-five is the result of decompilation of       13:23:57  
10      the Elastic code on page ninety-four?       13:24:01  
11           MR. EBERHART: Objection. Vague.       13:24:11  
12           THE WITNESS: Yes.       13:24:56  
13      BY MR. KWUN:       13:25:01  
14           Q. You acknowledge, however, that the case       13:25:01  
15      statements on page ninety-five are in a different       13:25:06  
16      order than the case statements in -- on page       13:25:10  
17      ninety-four; correct?       13:25:13  
18           A. Yes.       13:25:14  
19           Q. Did you -- strike that.       13:25:15  
20           On page ninety-four, the all caps index,       13:25:18  
21      create, update, and delete, are those enums?       13:25:23  
22           A. That is consistent with my memory of the       13:25:29  
23      code. Of course, I don't have the code memorized,       13:25:35  
24      and I would need to look at the code to give you       13:25:39  
25      a definitive answer on that point.       13:25:42

1 Q. Did you look and evaluate what those enums 13:25:46  
2 were in terms of their actual values? 13:25:51

3 A. I remember looking at the definitions of the 13:25:55  
4 enums. I don't recall off the top of my head what 13:26:04  
5 the actual values were. 13:26:08

6 Q. Do you recall concluding that the enums in 13:26:11  
7 the Elastic code are in numerical order? 13:26:16

8 A. I don't recall that one way or another. 13:26:24  
9 Is there -- can you point me to somewhere in 13:26:42  
10 my report where I discuss that? 13:26:45

11 Q. No. 13:26:48  
12 I don't think you do discuss that. That is 13:26:49  
13 why I'm asking this question is I'm just wondering 13:26:51  
14 what investigation you might have done. 13:26:55

15 If index is the enum -- is zero and create 13:26:58  
16 is one and update is two and delete is three, do you 13:27:04  
17 have a theory about why decompilation would switch 13:27:11  
18 that order? 13:27:14

19 MR. EBERHART: Objection. Incomplete 13:27:16  
20 hypothetical. Mischaracterizes his report. 13:27:17

21 THE WITNESS: My experience is that 13:27:23  
22 decompilation occasionally -- and different 13:27:27  
23 decompilers or reverse compilers will order things 13:27:32  
24 differently based on -- based on their own internal 13:27:37  
25 algorithms; so I don't know -- I don't know which -- 13:27:42



1	which particular reverse compiler was used by	13:27:46
2	Mr. Bones. And so -- and I didn't investigate the	13:27:51
3	universe of reverse -- I didn't investigate how --	13:27:57
4	how any particular reverse -- reverse compiler would	13:28:01
5	render these lines.	13:28:06
6	BY MR. KWUN:	13:28:08
7	Q. So you have personal experience, having used	13:28:08
8	two different decompilers on the same compiled code	13:28:11
9	and getting different line orders for case	13:28:15
10	statements?	13:28:19
11	A. No.	13:28:20
12	I have had experience using de- --	13:28:21
13	decompilers and seeing that the case statements had	13:28:26
14	been reordered.	13:28:30
15	Q. Okay. Do you have -- your testimony just	13:28:31
16	a moment ago was that your experience was that	13:28:40
17	decompilation occasionally and different decompilers	13:28:43
18	or reverse compilers will order things differently	13:28:48
19	based on their own internal algorithms.	13:28:52
20	So was that untrue?	13:28:55
21	MR. EBERHART: Objection.	13:28:57
22	THE WITNESS: No.	13:28:58
23	I think --	13:28:58
24	MR. EBERHART: Mischaracterizes his prior	13:28:59
25	testimony.	13:29:01

1	Go ahead.	13:29:02
2	THE WITNESS: I think that that is -- that	13:29:02
3	is consistent. What I said is that I -- what I have	13:29:04
4	seen is that different -- in different instances	13:29:07
5	different decompilers have -- have moved -- have	13:29:10
6	changed the order of case statements.	13:29:19
7	BY MR. KWUN:	13:29:22
8	Q. Okay. Is it -- do you know whether it is	13:29:22
9	the decompiler that is moving the case statements	13:29:25
10	versus the compiler that created the byte code in the	13:29:30
11	first place that perhaps moved those case statements?	13:29:33
12	A. I didn't investigate that -- that	13:29:36
13	distinction.	13:29:38
14	Q. So you don't know, sitting here today,	13:29:39
15	whether there is any decompiler that will alter the	13:29:42
16	order of the case statements from the order that they	13:29:46
17	appear in the byte code.	13:29:49
18	MR. EBERHART: Objection. Mischaracterizes	13:29:52
19	prior testimony.	13:29:54
20	THE WITNESS: Well, technically what we are	13:29:58
21	talking about is a compiler/decompiler pair, of	13:30:01
22	course. And I didn't -- and different	13:30:06
23	compiler/decompiler pairs -- it has been my	13:30:09
24	experience that different decompile -- compiler	13:30:17
25	different -- and decompiler pairs sometimes change --	13:30:19

1 A. (Witness complies.) 13:49:19

2 Yes. 13:49:20

3 Q. Do you see some symbolic names that are in 13:49:20

4 those case statements? 13:49:24

5 A. I do. 13:49:25

6 Q. Do you have any theory about how 13:49:26

7 a decompiler could have inserted those symbolic 13:49:28

8 names? 13:49:32

9 MR. EBERHART: Objection. Assumes facts not 13:49:33

10 in evidence. Incomplete hypothetical. 13:49:34

11 THE WITNESS: Well, a decompiler might not 13:49:36

12 have done that, but Mr. Saly, in the process of -- of 13:49:42

13 creating this code, might have been able to 13:49:48

14 reconstruct these names. I mean, there is 13:49:55

15 a pretty -- there is a pretty simple relationship 13:49:58

16 between the method name add and the -- and the op 13:50:01

17 type, which is create. 13:50:04

18 BY MR. KWUN: 13:50:13

19 Q. Well, the -- the op type for create -- the 13:50:13

20 corresponding op type is add -- 13:50:20

21 A. Uh-huh. 13:50:21

22 Q. -- and the corresponding op type for index 13:50:22

23 is add -- 13:50:25

24 A. Uh-huh. 13:50:25

25 Q. -- and the corresponding op type for delete 13:50:26

1 is add and the corresponding op type of update is 13:50:30  
2 add; so I'm not sure I follow you. 13:50:34  
3 A. Well, so then there is the IndexAction.NAME 13:50:35  
4 that determines whether adding an index or adding 13:50:40  
5 a -- let's see here. Let's see. Adding an index, it 13:50:50  
6 says it would be Line 396 or deleting -- there is the 13:50:54  
7 DeleteAction.NAME. Then -- then you would know -- 13:50:58  
8 then if you get a delete, you would like to do 13:51:03  
9 a delete action. I think that is pretty clear. 13:51:05  
10 Q. And so your theory is that perhaps Mr. Saly 13:51:08  
11 took the decompiled code and replaced the string 13:51:14  
12 literal here with -- with index action, index action, 13:51:18  
13 delete action, and update action? 13:51:26  
14 A. Oh, yes. 13:51:29  
15 That -- that's a possible theory. As we 13:51:31  
16 know -- as we -- as I have said, I don't know what -- 13:51:34  
17 I don't know which -- what decompiler Mr. Saly was 13:51:38  
18 using, and I don't know what the state of the reverse 13:51:43  
19 compiled JAVA code would look like using Mr. Saly's 13:51:47  
20 decompiler. 13:51:55  
21 Q. So -- so you have one theory, which is that 13:51:56  
22 maybe Mr. Saly reinserted symbolic names for string 13:52:00  
23 literals in some places but not all of them. And 13:52:06  
24 then you have another theory, which is that maybe 13:52:09  
25 this decompiler inserts string literals in some 13:52:11

1 places for some symbolic names but not for others; is 13:52:16  
2 that correct? 13:52:19  
3 MR. EBERHART: Objection. 13:52:22  
4 THE WITNESS: That's correct. 13:52:22  
5 MR. EBERHART: Mischaracterizes prior 13:52:23  
6 testimony. 13:52:26  
7 BY MR. KWUN: 13:52:26  
8 Q. Okay. As to the later half of that correct 13:52:26  
9 explanation of your theories, you don't actually 13:52:28  
10 know -- that is purely speculation that such 13:52:30  
11 a decompiler exists? 13:52:35  
12 A. As I have said, I don't know the -- the 13:52:37  
13 specifics of the decompiler and how that decompiler 13:52:40  
14 interacted with the floragunn object code -- with the 13:52:44  
15 Elastic object code that he applied it to. 13:52:54  
16 Q. In your reply report -- just a second. 13:53:03  
17 In your reply report -- in paragraph eleven 13:53:18  
18 of your reply report you state that in your opening 13:53:22  
19 report you noted certain indicia of reverse -- of 13:53:30  
20 a reverse compilation process evident in this 13:53:33  
21 floragunn source code. 13:53:37  
22 Do you see that? 13:53:39  
23 A. Paragraph eleven of my -- 13:53:41  
24 Q. Reply report. 13:53:44  
25 A. -- reply report? 13:53:46

1 Yes. I see that. 13:53:47

2 Q. If I understand this correctly, you are 13:53:48

3 saying that there are certain things that you can see 13:53:50

4 in the floragunn source code itself that are indicia 13:53:52

5 of reverse compilation? 13:53:56

6 A. Yes. 13:53:58

7 Q. And your citation there suggests that those 13:53:58

8 indicia of reverse compilation that are evident in 13:54:06

9 the floragunn source code are discussed in your 13:54:10

10 opening report at Paragraph 227 and 233 to 240; is 13:54:13

11 that correct? 13:54:20

12 MR. EBERHART: Objection. Vague. 13:54:20

13 THE WITNESS: That is what it says there, 13:54:22

14 yes. 13:54:23

15 BY MR. KWUN: 13:54:23

16 Q. Okay. So let's go to your opening report, 13:54:24

17 and let's look at Paragraph 227. 13:54:32

18 A. (Witness complies.) 13:54:36

19 Yes. 13:54:39

20 Q. So Paragraph 227 is the Uri Bones testimony; 13:54:40

21 correct? 13:54:45

22 A. Yes. 13:54:45

23 Q. And the Uri Bones testimony is not something 13:54:46

24 that we'll find if we look at the source code 13:54:51

25 itself -- the floragunn source code itself; correct? 13:54:54

1 MR. EBERHART: Objection. Vague. 13:54:58

2 THE WITNESS: I don't understand the 13:55:02

3 question. 13:55:03

4 BY MR. KWUN: 13:55:03

5 Q. I'm just -- so Paragraph 227 actually says 13:55:03

6 a bunch of things; so I'm not saying that all of 13:55:06

7 these things are supposedly the indicia of reverse 13:55:09

8 engineering that is evident in the source code, but 13:55:13

9 I just want to go through each one of them and 13:55:15

10 evaluate it. 13:55:15

11 That first sentence in Paragraph 227 you are 13:55:16

12 talking about Uri Bones' testimony, and I am trying 13:55:19

13 to evaluate whether that statement in 227 is part of 13:55:23

14 what you, in your reply report at paragraph eleven, 13:55:29

15 claim are your notes of certain indicia of reverse 13:55:32

16 compilation process evidenced in the floragunn source 13:55:38

17 code. 13:55:40

18 So my question to you is isn't it true that 13:55:41

19 Uri Bones' testimony is not something you can see in 13:55:44

20 the floragunn because it is in the deposition 13:55:47

21 transcript? It is not in the source code; right? 13:55:50

22 A. I -- I agree that Uri Bones' testimony is in 13:55:54

23 a deposition transcript, not the source code. 13:55:58

24 Q. Okay. You then state -- in Paragraph 227 in 13:56:00

25 your opening report you talk about the string literal 13:56:07

1 and how that could have resulted from decompilation 13:56:10  
2 of a binary where the source code originally had 13:56:14  
3 a symbolic name; correct? 13:56:18  
4 A. Yes. 13:56:20  
5 Q. So that is what you believe is an indicia of 13:56:21  
6 reverse compilation that is visible in the floragunn 13:56:24  
7 source code itself; correct? Because you can see in 13:56:29  
8 the floragunn source code the string literal? 13:56:34  
9 A. Yes. 13:56:37  
10 Q. Nothing else in Paragraph 2- -- the rest of 13:56:37  
11 227 discusses any other indicia of reverse 13:56:42  
12 compilation that is in the source code itself; is 13:56:46  
13 that correct? 13:56:51  
14 A. Yes. That is correct. 13:56:52  
15 Q. All right. So now let's look at -- that was 13:56:53  
16 Paragraph 227 in your opening report. In your reply 13:56:58  
17 report at paragraph eleven you also refer to 13:57:02  
18 Paragraphs 233 to 240; so I would like to go to 233. 13:57:06  
19 A. (Witness complies.) 13:57:10  
20 Sure. 13:57:10  
21 Q. Paragraph 233 is, again -- well, it is 13:57:11  
22 a discussion of what decompilation is generally. It 13:57:22  
23 is a discussion of your experience with decompilation 13:57:26  
24 generally. 13:57:30  
25 And it is a discussion of the Uri Bones 13:57:30



1 testimony again; correct? 13:57:33

2 A. Yes. 13:57:34

3 Q. So nothing in Paragraph 233 actually refers 13:57:34

4 to indicia of reverse compilation that is visible in 13:57:37

5 the floragunn source code itself, does it? 13:57:42

6 A. Well, it does -- it does talk in -- it does 13:57:45

7 identify code itself, you know, as -- as you have 13:57:52

8 been looking at this afternoon, that has -- that, in 13:57:57

9 fact, has evidence of -- of reverse compilation. 13:58:02

10 That -- that is, this is the introduction -- 13:58:08

11 introductory paragraph to the discussion of -- of -- 13:58:12

12 of reverse compilation, which is why I included it 13:58:16

13 when I was -- when I refer to it as -- in the -- in 13:58:20

14 the reply report. 13:58:26

15 Q. Okay. Let's look at Paragraph 234. 13:58:28

16 A. (Witness complies.) 13:58:32

17 Q. 234 is, again, your discussion of reverse 13:58:33

18 compilation; correct? 13:58:37

19 A. Yes. 13:58:39

20 Q. This does not -- Paragraph 234 does not 13:58:39

21 contain any noted indicia of reverse compilation that 13:58:43

22 is evident in the floragunn source code, does it? 13:58:48

23 A. Well, it explains -- it explains -- instead, 13:58:52

24 it explains how there might be -- how the reverse 13:58:56

25 compilation process might -- can leave evidence of -- 13:58:59

1 of -- the reverse compilation process can leave 13:59:06

2 evidence in the source code. 13:59:13

3 Q. Paragraph 234 doesn't even discuss the 13:59:15

4 floragunn source code, does it? 13:59:18

5 Oh, I'm sorry. It does. Let me -- let me 13:59:21

6 strike that. 13:59:24

7 Paragraph 234 does not identify any indicia 13:59:24

8 of reverse compilation that is evident in the 13:59:28

9 floragunn source code itself, does it? 13:59:31

10 A. Para- -- instead, Paragraph 234 is 13:59:34

11 explaining the process by which -- how one would use 13:59:48

12 reverse compilation. And then later -- and then 13:59:55

13 it -- and then it -- and then later on it -- 13:59:59

14 I explain how this process can result in indicia 14:00:04

15 being left -- indicia of such -- such a process being 14:00:10

16 in the -- it could result in the source code. 14:00:17

17 Q. Paragraph 235 discusses your belief that 14:00:21

18 reverse compilation can result in artifacts that 14:00:26

19 could be viewed as indicia of reverse compilation, 14:00:31

20 such as unusual variable names, but it doesn't 14:00:36

21 actually identify any such indicia that are present 14:00:40

22 in Paragraph 235 in the floragunn source code, does 14:00:43

23 it? 14:00:48

24 MR. EBERHART: Objection. 14:00:49

25 THE WITNESS: So Paragraph 235 does not 14:00:54

1 identify a specific instance of these indicia but, 14:00:56  
2 rather, explains how the indicia could -- could come 14:01:02  
3 into existence. 14:01:06  
4 BY MR. KWUN: 14:01:07  
5 Q. Paragraph 236 does not identify any indicia 14:01:07  
6 that are present in the floragunn source code, does 14:01:11  
7 it? 14:01:13  
8 A. Instead, Paragraph 236 explains that 14:01:14  
9 unauthorized reverse compilation -- that I understand 14:01:21  
10 that un- -- that unauthorized reverse compilation 14:01:28  
11 comprises an act of reproduction or adaptation that 14:01:31  
12 violates a copyright owner's exclusive rights to 14:01:36  
13 reproduce the copyrighted work and prepare derivative 14:01:43  
14 work based on the copyrighted work. 14:01:44  
15 Q. Paragraph 237 states your conclusion that 14:01:45  
16 the following comparison illuminates evidence that 14:01:49  
17 the floragunn code was created through such a reverse 14:01:53  
18 compilation but does not, itself, in Paragraph 237 14:01:56  
19 identify any such indicia of reverse compilation that 14:02:00  
20 are evident in that floragunn source code, does it? 14:02:03  
21 A. Paragraph 237 does not -- does not iden- -- 14:02:06  
22 does not, itself, identify individual instances of 14:02:12  
23 reverse and -- of reverse compilation and, instead, 14:02:20  
24 it is an introduction to a specific -- a -- specific 14:02:27  
25 identifications. 14:02:33

1 Q. Paragraph 238 repeats the indicia of reverse 14:02:34  
2 compilation, according to you, of the string literal; 14:02:41  
3 so it doesn't introduce a new one. It introduces one 14:02:45  
4 that you already discussed previously in 14:02:51  
5 Paragraph 237. 14:02:52

6 Isn't that true? 14:02:52

7 A. So Paragraph 238 identifies a specific 14:02:54  
8 instance of -- of indicia of reverse compilation. 14:03:00

9 Q. Yeah. That wasn't my question. 14:03:09

10 Paragraph 238 does not identify an 14:03:10  
11 additional indicia of reverse compilation beyond the 14:03:17  
12 one you already identified in Paragraph 227, does it? 14:03:21

13 MR. EBERHART: Objection. Mischaracterizes 14:03:28  
14 the report. 14:03:30

15 THE WITNESS: No. 14:03:31

16 It explains the -- it explains the 14:03:32  
17 significance of the -- and in this context it 14:03:34  
18 explains the significance of the -- of the specific 14:03:38  
19 indicia in the context of the discussion here. 14:03:43

20 BY MR. KWUN: 14:03:47

21 Q. The specific indicia is the string literal 14:03:47  
22 indices:data/right/bulk, and then in brackets s; 14:03:51  
23 correct? 14:03:56

24 A. Yes. That's correct. 14:03:56

25 Q. And that is the same indicia that is 14:03:57

1 discussed in Paragraph 227 of your expert report. 14:04:02

2 Isn't that true? 14:04:07

3 A. Yes, it is. 14:04:09

4 Q. Paragraph 239 of your expert report 14:04:12

5 identifies the floragunn source code variable name ar 14:04:20

6 as being an indicia of reverse compilation. 14:04:26

7 Is that true? 14:04:30

8 A. Let's see. 14:04:31

9 I think I stated it more carefully than you 14:04:37

10 just did. I stated it -- such substitution may 14:04:41

11 indicate reverse compilation. I didn't say it 14:04:45

12 definitely indicated reverse compilation. 14:04:48

13 Q. And, in fact, since drafting your first 14:04:51

14 report, you have learned that floragunn uses the 14:04:56

15 variable ar -- the variable name ar to mean action 14:05:00

16 request, haven't you? 14:05:10

17 A. Actually, I discuss that at length in my -- 14:05:11

18 I believe I discuss that at length in my reply report 14:05:13

19 that specific issue. 14:05:19

20 Q. Yeah. See, if you at your reply report at 14:05:34

21 Paragraph 102, I don't know that I would say at 14:05:36

22 length but -- because I think it is just this one 14:05:36

23 paragraph, but this paragraph you do discuss the 14:05:38

24 variable ar. 14:05:41

25 Is there somewhere else in here that you 14:05:42

1 discuss the variable ar? 14:05:45

2 A. No. 14:05:48

3 Q. Okay. So in Paragraph 102 of your reply 14:05:49

4 report, Exhibit 359, you note that it is unlikely 14:05:52

5 that a developer would use ar in the manner suggested 14:05:58

6 by Dr. Astrachan because it would then be used for 14:06:01

7 two purposes; right? 14:06:04

8 A. Right. 14:06:06

9 Q. But, in fact, we know for a fact that 14:06:06

10 floragunn did exactly this because they actually have 14:06:09

11 a variable named ar in their code. 14:06:11

12 A. Yes. 14:06:17

13 Q. So whether it is unlikely or not, we know it 14:06:17

14 actually factually happened and that the variable ar 14:06:23

15 is not one that has no context but actually stands 14:06:28

16 for action request? 14:06:28

17 A. No. 14:06:30

18 MR. EBERHART: Objection. Objection. 14:06:30

19 Argumentative. Mischaracterizes the document. 14:06:32

20 THE WITNESS: No. 14:06:36

21 That is not my -- my point here. 14:06:36

22 Dr. Astrachan suggested that ar had specific 14:06:38

23 contextual meaning in this -- in this -- in this 14:06:43

24 specific instance, and I was disputing that 14:06:47

25 statement, not the general statement about whether in 14:06:50

1 some other instance ar could have conception, 14:06:54  
2 contextual meaning. 14:07:00  
3 BY MR. KWUN: 14:07:01  
4 Q. Do you think that the use of action -- 14:07:02  
5 excuse me. 14:07:04  
6 The use of ar in this code is a sign of 14:07:05  
7 reverse compilation, given what you now know? 14:07:10  
8 A. Yes. 14:07:13  
9 As I explain in Paragraph 102 of my report 14:07:24  
10 that this -- that these -- that the differences, 14:07:35  
11 including creation of the ar variable, is a -- is 14:07:40  
12 a result of the process of integrating the reverse 14:07:50  
13 compiled code into the floragunn code and that the -- 14:07:56  
14 and that the developer was just looking to integrate 14:08:01  
15 the -- the reverse compiled code into the floragunn 14:08:08  
16 code without looking at the greater context of the 14:08:11  
17 floragunn code to notice that the -- the 14:08:14  
18 discrepancies in the name ar. 14:08:18  
19 Q. I guess I'm just having trouble 14:08:21  
20 understanding why -- well, strike that. 14:08:24  
21 In Paragraph 102 of your reply report, you 14:08:28  
22 suggest that the use of ar for what you believe are 14:08:32  
23 two purposes -- 14:08:36  
24 A. Uh-huh. 14:08:39  
25 Q. -- is a bad idea? Is that what you are 14:08:39

1 saying? 14:08:43

2 A. No. 14:08:43

3 I'm saying that Dr. Astrachan suggested 14:08:45

4 that, oh, of course they would use ar because it has 14:08:48

5 contextual meaning. 14:08:55

6 And I say, oh, not so fast. It doesn't 14:08:56

7 have -- the contextual meaning that ar has in this 14:08:59

8 code is not the same as the -- as the -- as the 14:09:03

9 variable used at line -- I think it is -- is it 14:09:06

10 Line 392? It is. 14:09:15

11 Q. So do you have a theory on why they would 14:09:21

12 have used this variable name ar? 14:09:25

13 MR. EBERHART: Objection. Asked and 14:09:28

14 answered. Vague. 14:09:30

15 THE WITNESS: Do I have a theory? Well, 14:09:31

16 that they were in the process -- they were in the 14:09:40

17 process of editing the -- that Mr. Saly was in the 14:09:42

18 process of editing the reverse compiled JAVA code to 14:09:48

19 fit into the floragunn module, and he -- and in this 14:09:53

20 process he -- he took a -- a -- he just used -- just 14:10:03

21 used any -- any simple abbreviation that didn't 14:10:14

22 have -- that I -- as I pointed out, doesn't have 14:10:21

23 contextual context. 14:10:25

24 BY MR. KWUN: 14:10:27

25 Q. So it is your position -- well, maybe it is 14:10:27



1 not. I don't -- I don't understand this; so let me 14:10:30  
2 just ask you this. 14:10:33  
3 Do you believe that when Hendrik Saly used 14:10:33  
4 the variable name ar here, he wasn't thinking of 14:10:36  
5 action request? 14:10:41  
6 MR. EBERHART: Objection. Misstates prior 14:10:42  
7 testimony. Mischaracterizes the document. 14:10:44  
8 THE WITNESS: My point is that this -- that 14:10:48  
9 this -- that the fact that this variable doesn't have 14:10:51  
10 contextual context in this -- in this -- in this 14:10:54  
11 module indicates that the module wasn't being created 14:11:02  
12 de novo but, rather, being created by -- through the 14:11:09  
13 processes I explain here of making simple edits in 14:11:14  
14 the process of integrating the decompiled code into 14:11:18  
15 the JAVA file. 14:11:22  
16 BY MR. KWUN: 14:11:23  
17 Q. Okay. And then, finally, Paragraph 240. 14:12:01  
18 This is the last paragraph that you cited in your 14:12:04  
19 reply report as -- somewhere in your opening report 14:12:07  
20 where you identify indicia of reverse compilation 14:12:10  
21 that appeared in the floragunn source code. 14:12:15  
22 Paragraph 240, though, doesn't identify 14:12:18  
23 indicia of reverse compilation; instead, it is your 14:12:21  
24 effort to explain why something is not an indicia of 14:12:26  
25 non reverse compilation. 14:12:29

1	Isn't that true?	14:12:31
2	MR. EBERHART: Objection. Vague.	14:12:32
3	THE WITNESS: That is -- that is what --	14:12:35
4	yes. I was -- I was explaining here that just	14:12:42
5	because things are out of order does not mean not	14:12:45
6	reverse compilation.	14:12:48
7	BY MR. KWUN:	14:12:50
8	Q. So the two indicia of reverse compilation	14:12:50
9	that you claim to have identified in the source code	14:12:54
10	are the string literal indices:data/right/bulk, and	14:12:57
11	then in brackets s, and the variable name of ar; is	14:13:04
12	that correct?	14:13:11
13	A. For this specific module.	14:13:11
14	Q. For this specific module, you identified no	14:13:16
15	other indicia of reverse compilation that is evident	14:13:19
16	in the source code itself; correct?	14:13:22
17	A. Actually, no.	14:13:24
18	I -- I -- I went through the -- in	14:13:34
19	Paragraphs 241 and following I went -- I detailed the	14:13:41
20	apparent development process here, which absent	14:13:48
21	reverse compilation doesn't make a lot of sense.	14:13:57
22	Q. Okay. So let's -- let's talk about those.	14:14:03
23	Well, first of all --	14:14:07
24	A. Actually, how about a break here? Is	14:14:08
25	this --	14:14:11

1 Q. We can take a break. We can take a break. 14:14:11

2 That's fine. 14:14:15

3 A. Great. 14:14:15

4 THE VIDEOGRAPHER: We're off the record. 14:14:17

5 2:14 p.m. 14:14:20

6 (Short recess taken.) 14:26:36

7 THE VIDEOGRAPHER: We are now on the record. 14:26:36

8 2:26 p.m. 14:26:38

9 BY MR. KWUN: 14:26:41

10 Q. Dr. Walker, if you could turn to 14:26:44

11 Paragraph 245 of your expert report, please. 14:26:47

12 A. (Witness complies.) 14:26:51

13 I am here. 14:26:51

14 Q. Paragraph 245 of your expert report follows 14:26:52

15 your discussion of what you call examples two through 14:26:59

16 four in this code; correct? 14:27:05

17 A. One through four, I guess. 14:27:09

18 Q. One through four. Fair enough. 14:27:12

19 You state in Paragraph 245 that you find the 14:27:14

20 sequence of commits of nonfunctional code to be 14:27:19

21 unusual. 14:27:22

22 What is unusual about the sequence of 14:27:23

23 commits of nonfunctional code? 14:27:26

24 A. Well, I think I -- so the -- Elastic 14:27:31

25 released its code on September 11th, the same day 14:27:43

1 STATE OF CALIFORNIA )  
 ) ss.  
2 COUNTY OF KERN )  
3  
4

5 I, B. Suzanne Hull, a Certified Shorthand  
6 Reporter in the State of California, holding  
7 Certificate Number 13495, do hereby certify that  
8 MARTIN WALKER, Ph.D., the witness named in the  
9 foregoing deposition, was by me duly sworn; that said  
10 deposition, was taken Tuesday, August 10, 2021, at  
11 the time and place set forth on the first page  
12 hereof.

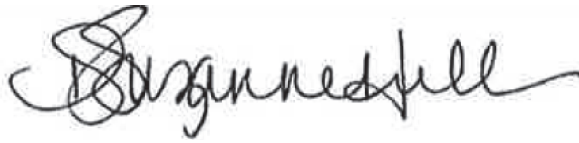
13 That upon the taking of the deposition, the  
14 words of the witness were written down by me in  
15 stenotypy and thereafter transcribed by computer  
16 under my supervision; that the foregoing is a true  
17 and correct transcript of the testimony given by the  
18 witness.

19 Pursuant to Federal Rule 30(e), transcript  
20 review was requested.

21 I further certify that I am neither counsel  
22 for nor in any way related to any party to said  
23 action, nor in any way interested in the result or  
24 outcome thereof.

25 ///

1 Dated this 11th day of August, 2021, at  
2 Bakersfield, California.

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4 

5 B. Suzanne Hull, CSR No. 13495  
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